IODICAL
39

#39

FAO Fisheries Technical Paper No.39
(Distribution restricted)

FIb/T39
CB-Index:Physical Oceanography

LIBRARY
JUL 30 1964
FISH & WILDLIFE SERVICE

# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

| Volume 6 | Volume 6 | Volumen 6 |
|---|---|---|
| SUBJECT INDEX | INDEX PAR SUJET | INDICE DE MATERIAS |
| (PHYSICAL OCEANOGRAPHY) | (OCEANOGRAPHIE PHYSIQUE) | (OCEANOGRAFIA FISICA) |

Prepared by — Prépare par — Preparado por

L. Otto

and et y

FAO Fisheries Division, Biology Branch
Sous-division de la biologie, Division des pêches de la FAO
Subdirección de Biología de la Dirección de Pesca de la FAO

FISHERIES DIVISION, BIOLOGY BRANCH
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1964

## DOCUMENTS OF THE BIOLOGY BRANCH OF FAO FISHERIES DIVISION

Documents which are not official FAO publications are issued in several series. They are given a restricted distribution and this fact should be indicated if they are cited. Most of them are prepared as working papers for meetings, or are summaries of information for use of member governments, organizations, and specialists concerned.

## DOCUMENTS DE LA SOUS-DIVISION DE LA BIOLOGIE DE LA DIVISION DES PECHES DE LA FAO

Des documents qui ne figurent pas parmi les publications officielles de la FAO sont publiés dans diverses séries. Ils font seulement l'objet d'une distribution restreinte, aussi convient-il de le préciser lorsque ces documents sont cités. Il s'agit le plus souvent de documents de travail préparés pour des réunions, ou de résumés d'information à l'intention des gouvernements des pays membres, ainsi que des organisations et spécialistes intéressés. Ces séries sont les suivantes:

## DOCUMENTOS DE LA SUBDIRECCION DE BIOLOGIA DE LA DIRECCION DE PESCA DE LA FAO

Esta Subdirección publica varias series de documentos que no pueden considerarse como publicaciones oficiales de la FAO. Todos ellos tienen distribución limitada, circunstancia que debe indicarse en el caso de ser citados. La mayoría de los títulos que figuran en dichas series son documentos de trabajo preparados para reuniones o resúmenes de información destinados a los estados miembros, organizaciones y especialistas interesados.

**FAO Fisheries Report** **FIb/R (No.)**
**FAO Fisheries Circular** **FIb/C (No.)**
**FAO Fisheries Synopsis** **FIb/S (No.)**

Special groups of synopses are identified by symbols followed by classification numbers based on indexed code of "Current Bibliography":

SAST Data concerning certain species and fish stocks.

MAST Information on methods and subjects.

OT Oceanographic data.

IT Limnological data.

and

CART Information concerning fisheries and resources of certain countries and regions (FID/S).

Des catégories spéciales de synopses sont identifiées à l'aide de symboles suivis des chiffres de classification basés sur le code d'indexation de la "Current Bibliography":

SAST Données sur certaines espèces et populations de poissons.

MAST Renseignements sur des méthodes et des sujets.

OT Données océanographiques.

IT Données limnologiques.

et

CART Renseignements sur les pêcheries et les ressources de certains pays et régions (FID/S).

Grupos especiales de sinopsis se distinguen con las siglas siguientes, seguidas por números de clasificación que se basan en las claves de los índices de la "Current Bibliography":

SAST Datos relativos a ciertas especies y poblaciones.

MAST Sinopsis sobre métodos y materias.

OT Sinopsis sobre oceanografía.

IT Sinopsis sobre limnología.

y

CART Información sobre los recursos acuáticos vivos de algunos países y regiones (FID/S).

**FAO Fisheries Technical Paper FIb/T (No.)**

Special groups of Technical Papers are identified by:

RE Indexed lists of experts and institutions drawn from Registers maintained by Biology Branch

CB Lists of Periodicals, special sections of "Current Bibliography for Aquatic Sciences and Fisheries", special bibliographies and papers concerning documentation problems.

MFS Provisional editions of "FAO Manuals in Fisheries Science".

Some documents also have another identification, if, for example, they have been contributed to a meeting for which papers have been numbered according to another system.

Des catégories spéciales de documents techniques sont identifiées à l'aide des symboles suivants:

RE Listes indexées d'experts et institutions tirées des registres tenus à jour par la Sous-division de la Biologie.

CB Listes de périodiques, des sections spéciales de la "Current Bibliography for Aquatic Sciences and Fisheries", des bibliographies particulières et des articles sur les problèmes de documentation.

MFS Editions provisoires des "Manuels FAO de la science des pêches".

Il arrive que certains documents portent d'autres numéros d'identification, comme c'est le cas s'ils ont été préparés pour une réunion dont les documents ont été marqués à l'aide d'un autre système.

Grupos especiales de documentos técnicos se identifican por las siglas siguientes:

RE Listas índices de expertos y de instituciones tomadas de los registros que se llevan en la Subdirección de Biología.

CB Listas de periódicos, secciones especiales de la "Current Bibliography for Aquatic Sciences and Fisheries", bibliografías especiales y trabajos relativos a los problemas de documentación.

MFS Ediciones provisionales de los "Manuales FAO de la Ciencia de la Pesca".

Algunos documentos tienen también otra identificación si, por ejemplo, son contribuciones a una reunión cuyos documentos han sido marcados con arreglo a otros sistemas.

FAO Fisheries Technical Paper No.39 FIb/T39
(Distribution restricted) CB-Index:Physical Oceanography

# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

| Volume 6 | Volume 6 | Volúmen 6 |
|---|---|---|
| SUBJECT INDEX | INDEX PAR SUJET | INDICE DE MATERIAS |
| (PHYSICAL OCEANOGRAPHY) | (OCEANOGRAPHIE PHYSIQUE) | (OCEANOGRAFIA FISICA) |

Prepared by Préparé par Preparado por

L. Otto
Royal Netherlands Meteorological Institute
Institut Royal Néerlandais de Météorologie
Instituto Real Holandés de Meteorologia

and et y

FAO Fisheries Division, Biology Branch
Sous-division de la biologie, Division des pêches de la FAO
Subdirección de Biología de la Dirección de Pesca de la FAO

13797

FISHERIES DIVISION, BIOLOGY BRANCH
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, March 1964

## PREPARATION OF THIS PAPER

This paper contains detailed indexes to entries in the Current Bibliography for Aquatic Sciences and Fisheries relating to the subject of physical oceanography. Entries are indexed according to the recently revised UDC 551.46 Physical Oceanography. Copies of this revision are available on application from the Chairman of the IAPO Committee on Classification, Dr. Model, Deutsches Hydrographisches Institut, Hamburg. The indexes have been prepared in co-operation with the Royal Netherlands Meteorological Institute.

FAO plans to issue this classification, when available, in the official languages of FAO and of UNESCO. Meanwhile, for the convenience of users of the Current Bibliography, the UDC numbers are supplemented in the present indexes by Subject Headings in English.

## PREPARATION DE CE DOCUMENT

Le présent document comporte des index détaillés des notices publiées dans la "Current Bibliography for Aquatic Sciences and Fisheries" qui concernent l'océanographie physique. Ces notices sont indexées suivant la CDU récemment revisée, 551.46, Océanographie physique. Des exemplaires de ce texte revisé peuvent être obtenus sur demande adressée au Président du Comité de la classification de la IAPO, Dr. Model, Deutsches Hydrographisches Institut, Hamburg. Les index ont été préparés en collaboration avec l'Institut Royal Néerlandais de Météorologie.

La FAO se propose de publier cette classification, lorsqu'elle sera établie, dans les langues officielles de la FAO et de l'UNESCO. En attendant, pour la commodité des utilisateurs de la "Current Bibliography", les chiffres de la CDU sont complétés, dans le présent index, par les titres anglais des sujets.

## PREPARACION DE ESTE DOCUMENTO

Este documento contiene índices detallados de las reseñas en la "Current Bibliography for Aquatic Sciences and Fisheries" que se refieren a los temas de oceanografía física. Las reseñas se han indicado de acuerdo con el sistema CDU 551.46 Oceanografía Física, recientemente revisado. Copias de esta revisión pueden obtenerse solicitándolas al Presidente del Comité de Clasificaciones de la IAPO, Dr. Model, Deutsches Hydrographisches Institut, Hamburg. Los índices se han preparado en cooperación con el Instituto Real Holandés de Meteorologia.

La FAO proyecta publicar esta clasificación, cuando sea posible, en los idiomas oficiales de la FAO y la UNESCO. Mientras tanto, para comodidad de los suscriptores de la "Current Bibliography", los números de la CDU se complementan, en este índice, con encabezamientos en inglés por temas.


Distribution

FAO Fisheries Division
FAO Regional Fisheries Officers
Author
Selectors, 5 and 7

"Current Bibliography" entry:

Otto, L. & FAO Fisheries 9-04587 MF
Division, Biology Branch (1964)
FAO Fish.tech.Pap., (39):39 p.
Current Bibliography for Aquatic Sciences and Fisheries - Volume 6. Subject index (Physical oceanography)

Detailed index to entries in the CBASF relating to the subject of physical oceanography classified according to the UDC 551.46 physical oceanography.
Ci 8-05563.

CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

Volume 6 - Series Subject Index (Physical Oceanography)


| | | | | | |
|---|---|---|---|---|---|
| 551.46 | PHYSICAL OCEANOGRAPHY. SUBMARINE TOPOGRAPHY | 10346 | 12753 | 13573 | 13703 |
| | :002 /Documentation/ | 11298 | 465me | | |
| | :01 /Bibliography/ | 07961 | 08308 | 09767 | 10190 |
| | | to | 10195 | 10211 | 12213 |
| | | 13290 | 13291 | | |
| | :06 /Societies, Institutions/ | 07044 | 07269 | 07296 | 07322 |
| | | 07749 | 07967 | 09383 | 10647 |
| | | 11203 | 11342 | 11384 | 11394 |
| | | 11397 | 11399 | 11627 | 11717 |
| | | 11778 | 13107 | 13329 | |
| | :06(100) /International organizations/ | 07839 | 08502 | 09761 | 10757 |
| | | 10968 | 10984 | 11391 | 11393 |
| | | 11398 | 11404 | to | 11407 |
| | | 11519 | 12039 | 12496 | 12631 |
| | :06"195" /International Geophysical Year/ | 07963 | 09090 | 433me | 458me |
| 55.46(02) | Books, Handbooks, Textbooks | 06982 | 07766 | 10165 | 13096 |
| | | | | | 13097 |
| (03) | Encyclopaedias. Dictionaries. Glossaries | 08842 | 08843 | 08954 | 09762 |
| | | | | 10205 | 13464 |
| (042) | Lectures. Popular articles | | 10980 | 13425 | 13490 |
| (047) | Projects. Reports. Case studies | 07072 | 07102 | 07103 | 07963 |
| | | 07965 | 08932 | 09071 | 09769 |
| | | 09770 | 10199 | 10200 | 10347 |
| | | 10574 | 10587 | 10846 | 11324 |
| | | 11376 | 11408 | 11409 | 11410 |
| | | 11412 | 11414 | 11602 | 12993 |
| | | | | | 13125 |
| (048) | Reviews | | | 07422 | 13098 |
| (083.4) | Tables for reduction and computation | | | | 07937 |
| (084.4) | Atlases | | | 10056 | 10713 |
| (09) | Historical data | 07252 | 08905 | 09346 | 09932 |
| | | | 12217 | 12754 | 13037 |
| (26) | General oceanography of particular sea regions or oceans, specified geographically | 11360 | 11390 | 12785 | 13462 |
| 551.46.0 | GENERAL ASPECTS OF PHYSICAL OCEANOGRAPHY | | | 07071 | 07097 |
| 551.46.06 | Observational data | 07003 | 07266 | 07421 | 07884 |
| | | 08466 | 08953 | 10787 | 12120 |
| .062 | Periodically collected observations. Lists referring to regular stations or lines | 07974 | 08069 | 09217 | 11054 |
| | | | | | 13323 |
| .1 | Sea level heights | | | | 12244 |
| .5 | Temperatures, salinities (chlorinities) densities and dynamic depths | | | 09088 | 12641 |
| .7 | Ice | | | | 09608 |
| .065 | Incidentally collected observations. Data of expeditions, cruises and individual voyages. | 07124 | 07962 | 08565 | 09794 |
| | | 09795 | 09796 | 10152 | 10768 |
| | | 10769 | 11050 | to | 11053 |
| | | | 11635 | 12237 | 12243 |
| .4 | Chemical data, except salinities and chlorinities | | | | 11183 |
| .5 | Temperatures, salinities (chlorinities) densities and dynamic depths | | | 09791 | 09809 |

| | | | | | |
|---|---|---|---|---|---|
| 551.46.07 | Oceanographic laboratories and field work. Expeditions and cruises. See also: 551.46.08 Instruments for oceanographic field observations | 06976 09074 10213 | 07563 09109 10352 11380 | 07730 09158 10947 11632 | 07966 10212 11198 11641 |
| .071 | General matters specific for oceanographic laboratory and field work | 08176 | 11534 | 13505 | 386me |
| :656.6 | Navigational aspects | 08037 | 10354 | 11856 13121 | 11911 13617 |
| .072 | Models, model experiments. See also 53.072 Models | | | | 07971 |
| .073 | Floating establishments for oceanographic research. Oceanographic research vessels | 07881 10208 11846 11857 11863 11870 to 11915 | 08452 10209 11847 11858 11865 11871 11880 13042 | 08456 11843 11851 11860 11866 11875 11913 13289 | 09886 11845 11854 11862 11867 11877 11914 |
| -52 | Automatic floating stations | 06966 | 06967 | 06974 | 09385 13287 |
| .077 | Diving apparatus and vehicles. See also 626.02 Underwater work in general. Diving equipment and 629.127 Submarines | 07431 09220 10345 | 07545 09419 10353 12791 | 07548 09688 10845 13020 | 07557 10344 12724 381me |
| .078 | Apparatus for taking samples of sea water | | | 11658 | 11850 |
| .079:621.397 (26.03) | /Underwater television/ | | | 06645 | 13285 |
| :77.058.2 | /Underwater photography/ | 06977 | 07412 | 07976 09149 | 08635 09160 |
| 551.46.08 | Instruments for oceanographic field observations and their use | 06964 | 06965 11637 | 06975 12790 | 09917 13501 |
| .081 | Instruments for measuring sea levels. Tide gauges. See also 551.46.086 | | | 12670 | 13460 |
| .082 | Instruments for measuring depth and pressure | | | | |
| | :531.719.35 /Echo-sounding/ | 08414 09156 | 09151 10357 | 09152 11512 | 09154 12694 12218 |
| :778.35 | Aerial photography | | | | |
| .083:531.756 | Density meter | | | 07591 | 07592 |
| :534 | Instruments for measuring acoustical phenomena in the sea | 07594 | 09157 | 09159 | 10729 11137 |
| :535 | Instruments for measuring radiation in and optical properties of the sea | 10783 | 11117 | 13461 | 13556 13653 |
| :621.317.7 | Instruments for measuring electrical properties. Measuring salinity in situ electrically. See also 537.7 | | | 07594 | 13120 |
| .085 | Instruments for measuring currents (Including drift bottles and the like) | 06974 07975 10599 | 06978 09792 12081 | 06979 09887 12726 | 07197 10598 12727 12755 |
| .086 | Instruments for measuring waves. Wave meters | | 09153 | 09766 | 13129 |
| .087 | Instruments for measuring sea temperatures | 09772 | 10351 | 10809 | 13475 |
| 551.46.09 | Applied oceanography | 07245 | 08831 | 09386 | 11196 |
| | :621.221 /Hydraulic energy from the sea/ | 07550 | 09890 | 13044 | 13486 13487 |
| | :628.5 /Pollution and fouling of the seas/ | 06911 08105 08132 08158 10808 11286 12077 | 07494 08106 08135 08159 10848 11295 12079 13506 | 07495 08130 08136 09589 10963 11800 12768 390me | 08034 08131 08149 09715 11108 12072 13469 391me |

| | | | | | |
|---|---|---|---|---|---|
| 551.461 | GENERAL FEATURES. SEA LEVEL AND HORIZONTAL EXTENT | | | | |
| 551.461.1 | Generalities | | | | 08170 |
| 551.461.2 | Sea level (the tide not being considered). For the tide see 551.466.7 | 08036 | 09165<br>13567 | 09218<br>13626 | 09773<br>13627 |
| .21 | Sea level datum planes | 12668 | 12671 | 12672 | 12673<br>12676 |
| .22 | Annual (seasonal) variation of the sea level | | | | 07808 |
| .24 | Secular variation of the sea level | | 10767 | 10772 | 13111 |
| .25 | Irregular variation of the sea level. Frequency distribution. For the atmospheric effect on sea level see 551.465.75 | | | | 08871 |
| .28 | Measurements of sea level height differences (sea surface slopes) between different points | | | 12033 | 12667 |
| 551.461.8 | Palaeo-oceanography | 07511 | 07810<br>10102 | 08057<br>10744 | 10087<br>11002 |
| 551.462 | SUBMARINE TOPOGRAPHY. BOTTOM FORMS | | | 10918 | 13630 |
| 551.462.2 | Depths of the sea, general and regional information | 07106 | 07372 | 08464 | 09335<br>10919 |
| 551.462.3 | Continental block. Insular blocks | | | | |
| .32 | Continental shelves. Insular shelves | | 08639 | 09065 | 12757 |
| .34 | Submarine canyons. See also 551.462.543 | | | | 10136 |
| 551.462.5 | Depressions of deep sea bottom | | | | |
| .54 | Troughs, trenches, deeps | | | 10137 | 10725 |
| 551.462.6 | Elevations of sea bottom | | | | |
| .62 | Submarine ridges, rises, seascarps, sills | | | 11135 | 12234 |
| .65 | Seamounts, sea peaks and oceanic bancs | 07247 | 07960 | 10728 | 12768 |
| .652 | Table mounts (guyots) and oceanic bancs | | | | 10727 |
| 551.462.8 | Smaller form details of the sea bottom (from the morphological point of view) | | | | 10556 |
| 551.463 | SEA WATER. PHYSICAL PROPERTIES OF SEA WATER SEE ALSO 551.46.083 | | 07583 | 07584 | 07589 |
| 551.463.1 | Mechanical properties of sea water (including surface films) | | | | 07596 |
| :532.14 | Density | | | | 07587 |
| 551.463.2 | Compression waves. Underwater sound | 09150 | 10361<br>10368 | 10364<br>10941 | 10366<br>10942 |
| .22 | Velocity of propagations in sea water | | 07598 | 09730 | 10365 |
| .24 | Reflection at boundary surfaces of the sea. Reverberation | 10355 | 10356 | 10568 | 13481 |
| .25 | Refraction patterns. Sound range | | | | 10359 |
| .256 | Sound channels | | | 08834 | 08835 |
| .26 | Diffraction. Scattering in the inner of the sea | | 10363 | 10367 | 13480 |
| .27 | Absorption | | | | 07721 |
| .284 | Sound transmission in shallow water | | | 10360 | 10362 |
| .286 | Explosive sound. Shock waves | | | | 11186 |
| .288 | Underwater noise | | | | 07263 |
| 551.463.5 | Radiation and optical properties | | | | 12756 |
| :535.31 | Reflection and refraction. Geometrical optics of the sea. Radar sea clutter | 12028 | 12036 | 12037 | 12038 |
| :535.341 | Submarine illumination. Rate of extinction. Transparency of sea water | | | 09324 | 13620 |

| | | | | | |
|---|---|---|---|---|---|
| 551.463.6 | Thermal properties of sea water | | | | |
| .67 | Energetics of sea water substance | 07070 | 07096 | 07597 | 07934 |
| 551.463.7 | Electrical properties of sea water | | | | |
| .73 | | | | | 09915 |
| .78 | Electromagnetic behaviour of sea water | | | | 12223 |
| 551.463.8 | Suspensions and suspended particles in sea water | | | 07177 | 09310 |
| 551.464 | CHEMICAL PROPERTIES OF SEA WATER. CHEMISTRY OF SEA WATER | 07583 | 07584 | 07588 | 07589 |
| 551.464.09 | Extraction of chemical substances (including $H_2O$) from sea water. See also 628.113.5 | | 07981 | 08442 | 09776 |
| 551.464.1 | Physical chemistry of sea water | | | | |
| .11 | Thermo chemistry | | | | 10481 |
| .1:541.132.3 | $P_H$ | | 07301 | 11655 | 11656 |
| :541.28 | Nuclear chemistry of sea water. | 06984 | 07131 | 07205 | 10493 |
| | Radioactivity. See also 551.464.6 | | 10494 | 11371 | 11372 |
| 551.464.3 | Composition of sea water | | | 07587 | 08441 |
| .32 | Composition (i.e. mutual ratios of dissolved constituents) in specified geographic localities | | | | 08797 |
| .34 | Dissolved gases | 10482 | 11655 | 11656 | 11693 |
| .38 | Budgets of dissolved matter. Biochemistry and geochemistry of the sea. Composition of sea water close to the bottom | 06867 | 07938 | 10838 | 11690 12763 |
| 551.464.5 | Salinity determination in the laboratory | | | | 07587 |
| :543.21 | Gravimetric methods | | | 07591 | 07592 |
| :543.25 | Physical methods. Conductometric methods | | 07593 | 07595 | 12702 |
| 551.464.6 | Special elements and inorganic compounds. Methods and results | | | | 12191 |
| .611 | H | | | | 09880 |
| .616 | F | | | | 12749 |
| .617 | N | 07090 | 11182 | 12688 | 12689 12697 |
| .618 | P | | | 11182 | 12723 |
| .621 | O | 06879 | 07499 | 09880 | 10704 |
| | | | | 11 | 11809 |
| .622 | S | | | | 06324 |
| .626 | C | | | | 11132 |
| .628 | Si | | | | 10481 |
| .629.3 | A | | | 12688 | 12689 |
| .636 | Cs | | | | 12794 |
| .656 | Cu | | | 11511 | 11752 |
| .662.1 | Al | | | 09564 | 10485 |
| .671.1 | Mn | | | | 11511 |
| .672 | Fe | 09564 | 10485 | 12691 | 13135 |
| .676 | Cr | | | | 11511 |
| .679.1 | U | | | | 10956 |
| .681.5 | Pb | | | 10990 | 11511 |
| 551.464.7 | Dissolved organic compounds (f.i. Yellow substance) | 07700 | 11148 | 11149 11648 | 11647 13547 |
| 551.465 | STRUCTURE, DYNAMICS AND CIRCULATION OF SEAS | | | | 10184 |
| 551.465.1 | General matters | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 551.465.15 | Turbulence. Eddy conductivity, eddy diffusivity and eddy viscosity in the sea. General information and theory | | 10114 | 10115 | 12366 |
| .153 | Horizontal (or quasihorizontal) exchange | | | 07959 | 13021 |
| .16 | Use of indicators of water masses (physical, chemical or biological indicators). Properties and use of TS-diagrams. Tracers | 07525 | 08076 | 09887 | 10737<br>12687 |
| 551.465.4 | Stratification and three dimensional hydrographic structure and circulation of water masses | 07004<br>07264<br>07368<br>07501<br>07802<br>08367<br>to<br>08797<br>09287<br>09605<br>09917<br>10120<br>10433<br>10784<br>11185<br>11636<br>12690<br>12992 | 07040<br>07364<br>07369<br>07512<br>to<br>08458<br>08595<br>08873<br>09295<br>09771<br>10112<br>10181<br>10590<br>10785<br>11288<br>11809<br>12696<br>13116 | 07043<br>07365<br>07371<br>07559<br>07807<br>08477<br>08597<br>08976<br>09327<br>09807<br>10113<br>10186<br>10741<br>10990<br>11402<br>12369<br>12720<br>13123<br>13557 | 07116<br>07367<br>07419<br>07711<br>08008<br>08589<br>08598<br>09229<br>09600<br>09916<br>10119<br>10432<br>10743<br>11182<br>11403<br>12687<br>12722<br>13131<br>13568 |
| .41 | Stratification (i.e. Hydrographic structure along the vertical) in general. Static stability and instability. Convection by vertical instability. The thermocline and wind-mixed layer as general phenomena | 07586 | 09765 | 09793 | 09883<br>11228 |
| .43 | Time variations of stratification or of local subsurface values of hydrographic elements. See also 551.466.8 | | 09329 | 10478 | 13126 |
| .432 | Annual (seasonal) variation | | | 07808 | 07907 |
| .435 | Other variations, periodic or irregular | | | 07872 | 12719 |
| .45 | Formation, spreading and general circulation of water masses | | | | 09773 |
| .48 | Synoptic case studies, including also currents. See also 551.465.755(047) | | 07801 | 09128 | 09167 |
| 551.465.5 | Sea currents, essentially horizontal and non-tidal. Current phenomena of non-tidal character. For tidal currents see 551.466.75 | 06963<br>08406<br>09792<br>10551<br>11638<br>13114 | 07800<br>08570<br>09806<br>10792<br>11665<br>13115 | 07973<br>09604<br>10106<br>11185<br>11691 | 08016<br>09780<br>10129<br>11326<br>13113 |
| .52 | Horizontal distribution of (non-tidal) currents. Current charts (not forming part of a synoptic series of a synoptic case study), see 551.46.068 and 551.465.48 | | | 08075 | 10774 |
| .53 | Information on local or regional non-tidal time variations of currents. See also 551.465.48 | 07366 | 09607 | 10431 | 13112<br>13324 |
| .532 | Annual (seasonal) variations | | | | 09764 |
| .535 | Other variations. See also 551.465.15 and 551.466.8 | | | | 09603 |
| .54 | Drift bottle and drift envelope studies of sea currents | | 10198 | 10805 | 13325 |
| .55 | Sea currents as related to their causes (non-tidal). Dynamics of sea currents | 08473 | 08474 | 09234 | 10430<br>111 |

| | | | | | |
|---|---|---|---|---|---|
| .553 | Wind-driven currents and current systems See also 551.465.46, 551.465.53 and 551.465.75 | 07809 | 09128<br>11379 | 09763<br>12080 | 11288<br>13566 |
| .555 | Currents as related to transverse pressure gradients. Gradient currents | | | 07585 | 09218 |
| .558 | Effect of bottom topography on horizontal currents | 09008 | 09080 | 10742 | 11130 |
| .58 | Various special current phenomena. Current rips. See also 551.468.16 | | | | 09274 |
| 551.465.6 | Properties of surface water | | | 11184 | 13566 |
| .62 | Horizontal distribution of surface water temperatures and/or salinities. Surface temperature and salinity charts (not forming part of a synoptic series or of a synoptic case study, see 551.46.068 and 551.465.48) | 07005 | 12471 | 12472 | 13104 |
| .63 | Local time variations of surface water temperature and/or salinity | | 07328 | 10431 | 13545 |
| 551.465.7 | Interactions between the sea and its environment and ambient influences. For dissolved constituents, see 551.464.3 and 551.464.6/.7. For influences of the shore see 551.466.4 and 551.468.1 | 08818 | 08819 | 09774<br>10482 | 10182<br>12030 |
| :551.5 | Influence of the sea on weather and climate | | | 09326 | 10569 |
| .71 | General effects of solar and terrestrial influences on the properties of sea water. Energy and water budgets. Atmospheric influences in general | 06959<br>07369<br>10118<br>11505 | to<br>08832<br>10180<br>13110 | 06962<br>08833<br>10196<br>13255 | 07368<br>09081<br>10197 |
| .72 | Influences of water exchange by evaporation, precipitation and run-off on the properties of water masses | | | 09236 | 09731 |
| .73 | Influences of heat exchange at the sea surface on the properties of water masses | 09768 | 10127 | 10128 | 13254 |
| .74 | Exchange of salt and planktonic organisms with the atmosphere | 07978 | 12714 | 13108 | 13109 |
| .752 | Process of momentum exchange as such. Boundary layer. Values of windstress | | | 08875 | 08876 |
| .755 | Atmospheric effects on the position of the sea surface. Wind surges | 07958<br>09110 | 07980<br>11131 | 08871<br>13111 | 08876<br>13288 |
| .755(047) | Case studies of atmospheric effects on sea surface heights | | | | 07646 |
| .77 | Heat flow across the sea bottom | | | | 07748 |
| .78 | Processes of exchange of suspended matter with and its transport over the bottom (f.i. turbidity currents, bottom sand ripples; see 551.462.8 and 551.468.1. As for substances dissolved from the bottom see 551.464.38) | 06874<br>10111<br>10773 | 07977<br>10641<br>11614 | 09079<br>10670<br>12027 | 09889<br>10726<br>12758<br>13625 |
| 551.466 | SEA WAVES AND TIDES | | 07105 | 08058 | 08567 |
| 551.466.2 | Principles of interpretation and methods of analysis of sea wave observations. Wave analyzers. See also 551.46.086 wave meters. | | | | 07873 |
| 551.466.3 | Wind waves. Swell waves | | | | 12759 |
| .31 | Generation and behaviour of wind waves | 09328<br>11377 | 09781<br>11695 | 09782<br>12980<br>13128 | 10552<br>13127<br>13555 |

| | | | | | |
|---|---|---|---|---|---|
| 551.466.32 | Information on regional or local occurrence of sea waves and swell waves (including results of hindcasts as a source of information) | | 07644 | 10220 | 12766 |
| .327 | Very high and highest waves | | | | 07931 |
| .33 | Forecasting of sea waves (including techniques of hindcasting) | | 07009 | 07979 | 08035 |
| .36 | Generation of microseism by action of sea waves | 08935 | 08951 | 09958 | 12031 |
| .38 | Various phenomena, except those coming under 551.466.4. Foaming of waves. Action of oil on waves. Slicks | | | 07042 | 13131 |
| 551.466.4 | Effects of the bottom, of obstacles, of currents and of turbulence on wind waves or swell | | | | |
| .42 | Effects of currents on surface waves | | | | 12035 |
| 551.466.44 | Effects of the bottom. Effects of obstacles | | | 08503 | 12224 |
| .441 | General features of wave motion in shallow water or near obstacles | | | | 13130 |
| .446 | Reflection | | | | 09078 |
| .45 | Breakers. Surf | | | 11694 | 13256 |
| .48 | Forces of waves on structures or coasts. Wave run-up | | | | 07970 |
| 551.466.6 | Long or tidal waves. Inertia oscillation, seiches and related phenomena | | | | 09076 |
| .62 | Seismic sea waves, tsunamis | 09301 | 09384 | 13257 | 13476 |
| .66 | Seiches. See also 551.466.86 Internal seiches | 08952 | 11396 | 12751 | 12769 |
| 551.466.7 | The Tide | | | 09110 | 12674 |
| .71 | General theory of ordinary tides in the sea | | | 07968 | 07969 |
| .72 | The tides considered regionally. Cotidal lines, corange lines. Specified dynamical explanations. Computation of vertical tides in the open sea from shore data. See also 551.466.87 | | | | 07784 |
| .73 | Local information on the vertical tide | | | | 07063 |
| .74 | Ephemeral, Tide Tables | | | | 10183 |
| .75 | Tidal currents | | | 07192 | 10110 |
| .78 | Tides near the coast. Shallow water tides. Tides in estuaries. Bores (Masquarets) | | 09077 | 11643 | 13459 |
| 551.466.8 | Internal waves and internal tides | | | | |
| .81 | Theory of internal waves | | | 11639 | 12762 |
| .82 | Observations and case studies. See also 551.465.435 and 551.465.535 | | 10730 | 11640 | 12719 |
| 551.467 | ICE IN THE SEA. ICE AND ICEBERGS FROM THE OCEANOGRAPHICAL POINT OF VIEW | 06970 to 10125 | | 06973 10126 | 08879 12029 13117 |
| 551.467.3 | Variations in time. Times of freezing over and unfreezing of sea areas. | 07010 | 10116 10124 | 10117 10703 | 10123 12238 |
| 551.468 | COASTAL OCEANOGRAPHY AND SPECIAL OCEANOGRAPHIC FORMS | | | 08512 | 08944 |
| 551.468.1 | Interactions of the sea with the shore. See also 551.465.78, 551.466.4, and 551.466.78 | 08501 09900 | 09064 10766 | 09082 10786 | 09808 11187 12492 |

| | | | | | |
|---|---|---|---|---|---|
| 551.468.2 | Deep marginal sea areas. Bays. Fjords. Inlets | 07104 | 07192 | 08613 | 09919 |
| | | 10436 | 10595 | 11015 | 11154 |
| | | 11243 | 11271 | 12048 | 12575 |
| | | | 12689 | 12720 | 13453 |
| 551.468.3 | Shallow marginal sea areas. Lidoes. Lagoons. Coastal pools. Wadden | 07108 | 07112 | 07118 | 09362 |
| | | 11288 | 11592 | 12760 | 13258 |
| | | | | | 13638 |
| 551.468.4 | Inland seas | | | 10350 | 12752 |
| 551.468.6 | Estuaries and problems of estuarine circulation and mixing. See also 551.466.78 Tides in estuaries | 07041 | 07139 | 07265 | 07333 |
| | | 08105 | 08135 | 08465 | 08524 |
| | | 08525 | 09086 | 09562 | 10641 |
| | | 10648 | 10771 | 11143 | 11759 |
| | | 11760 | 12500 | 13124 | 13598 |
| | | | | | 13704 |

## FAO FISHERIES TECHNICAL PAPERS (CB)

This is one of a group of Technical Papers (see inside front cover) giving information concerning bibliographic and intelligence services for aquatic sciences and fisheries. Further information and extra copies can be obtained from:

Elle fait partie d'un groupe de Documents Techniques (voir au verso de la page de couverture) donnant des informations sur les services de bibliographie et de renseignements des sciences aquatiques et des pêches. Pour obtenir des renseignements complémentaires et des exemplaires supplémentaires prière de s'adresser à:

Forma partie de un grupo de documentos técnicos (véase la contraportada anterior) con datos sobre los servicios bibliográficos e informativos de las ciencias acuáticas y la pesca. Para obtener mayor información o más ejemplares, dirigirse a:

Research Programs Section
Biology Branch, Fisheries Division
FAO, Rome, Italy.

(Papers issued since January 1963)

| | | |
|---|---|---|
| FB/T25-Suppl.1 | Current bibliography for aquatic sciences and fisheries<br>Volumes 1 to 4 and 1957 Supplement<br>Subject index (physical oceanography)<br>Volumes 1 à 4 et Supplément 1957<br>Index par sujet (océanographie physique)<br>Volumenes 1 a 4 y Suplemento de 1957<br>Indice de materias (oceanografía física) | July, 1963 |
| FB/T35 | Current bibliography for aquatic sciences and fisheries<br>Volume 5 Subject index (physical oceanography)<br>Volume 5 Index par sujet (océanographie physique)<br>Volumen 5 Indice de materias (oceanografía física) | July, 1963 |
| FIb/T15 | A List of Inland Fishery Workers in Europe<br>Liste des spécialistes des questions de la pêche dans les eaux intérieures en Europe | April, 1964 |
| FIb/T39 | Current Bibliography for aquatic sciences and fisheries<br>Volume 6 Subject Index (physical oceanography)<br>Volume 6 Index par sujet (océanographie physique)<br>Volumen 6 Indice de materias (oceanografía física) | April, 1964 |